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Current Account Imbalances in the Euro Area: Catching up or Competitiveness?

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Ansgar Belke and Christian Dreger[1]

Current account imbalances in the euro area: Catching up or competitiveness?

Abstract

In the debate on global imbalances, the euro area countries did not receive much attention so far. While the current account is on balance for the entire area, divergences between individual member states have increased since the introduction of the common currency. In this paper, the imbalances are traced back to catching up and competitiveness factors using paneleconometric techniques. In line with the intertemporal approach to the current account, low income countries tend to run deficits, while rich countries realize surpluses. However, the effect diminishes, if early years are dropped from the sample. The competitiveness channel is more robust and shows the expected sign, i.e. a real appreciation leads to external deficits. To restore competitiveness, a reduction of unit labour costs is on the agenda. Since a deterioration of competitiveness is not a feasible strategy for the surplus countries, an asymmetric response across countries is required in order to reduce the imbalances.

JEL Classification: E44, F32, F36

Keywords: Current account imbalances; catching up and competitiveness; euro area

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1 Introduction

In the debate on global imbalances, the euro area countries did not receive much attention until recently. While the US have run large external deficits up to the financial crisis, many Asian countries have realized enormous surpluses in their current account, with a rising weight of emerging market economies. In contrast, the current account of the euro area countries has been close to balance over the past decades at the aggregate level. However, disparities across the member states are striking. Persistent current account deficits of Greece, Portugal and Spain are accompanied by huge surpluses in Germany and the Netherlands. The current account to GDP ratio has increased since the introduction of the common curreny and reached even higher levels than in the US and China. During the financial crisis, the imbalances have been reduced. There are some reasons to believe that the global imbalances will decline in the period ahead, see for example Feldstein (2011). However, without the appropriate adjustment of the private and public sector, euro area imbalances could pick up again if the macroeconomic conditions normalize.

Public finances have also deteriorated, especially in high deficit countries. Triggered by the downgrading of rating agencies, risk premia demanded by holders of public debt have increased (Bernoth and Erdogan, 2010). The ten-year sovereign yield spread for bonds issued by surplus and deficit countries widened up to 250 base points. Costs of risk insurance have risen from 3 to 10 percent for Greek government bonds over the course of 2010, as measured by credit default swaps. The euro area members as well as the IMF stepped in as a lender of last resort to ensure further access to credit, conditional on the implementation of austerity reforms to consolidate the public budget. To avoid contagion to other countries and additional distortions in the transmission of the com-

mon monetary policy, the ECB started to purchase government bonds of the debtor countries. However, the debt crisis is still ongoing. It is rooted in structural factors, most notably in the divergence of current account positions. Persistent deficits led to a massive accumulation of foreign debt and raised concerns into the creditworthiness of these countries.

The development of the current account might be traced both to catching up and competitiveness factors. The imbalances might reflect a convergence process between countries with different income levels per capita (Blanchard and Giavazzi, 2002). A balanced position may not be optimal in the short run, and policy interventions directed to restore the balance can be harmful in this case. In line with the intertemporal approach to the current account, countries with lower per capita income may attract foreign capital due to higher growth perspectives. They should consume more and save less in anticipation of higher permanent income. Investment is expected to exceed savings, implying external deficits in the catching up period. Similarly, richer countries tend to run current account surpluses (Gourinchas and Rey, 2007).

The monetary union has facilitated the allocation of capital by promoting financial integration and reducing costs because of the elimination of the exchange rate risk. Some countries experienced lower real interest rates, and the decline might have fostered investment booms and saving busts. However, this can increase the persistence of deficits as lower income countries have improved access to external financing. Overall, current account imbalances might be interpreted as a sign of the proper functioning of the integration process and not as an indication of an improper macroeconomic management (Schmitz and von Hagen, 2009).

However, different per capita incomes do not imply that the extent of borrowing that actually took place has been optimal (Jaumotte and Sodsriwibon, 2010). In the long run, convergence will be achieved, and higher net foreign debt positions need to be serviced by future net exports or a devaluation of debt. If countries borrow to finance the production of non-tradables, the intertemporal budget constraint tends to be rejected (Giavazzi and Spaventa, 2010). As these goods are consumed domestically, foreign financing of their production is equivalent to borrow abroad for consumption. The increase of the construction sector in some countries provides evidence that the latter effect may have dominated over the recent period. Blanchard (2006) ascribed the economic boom in Portugal in the late 1990s to the sharp drop in interest rates and excessively rosy expectations for convergence due to the euro area membership. This led to wage increases exceeding productivity growth. Competitiveness deteriorated, export growth weakened, and external deficits widened.

Current account imbalances may point to shifts in competitiveness via changes in the real exchange rate (Arghyrou and Chortareas, 2008). According to standard models, real exchange rate appreciations will redirect demand from domestic to foreign goods. In case of a common currency, fluctuations in the real exchange rate correspond to changes in relative prices and unit labour costs. Hence, deficit countries may have become less competitive because domestic prices increased more than foreign prices. In part, this can be explained in terms of a catching up effect. According to the Balassa-Samuelson hypothesis, increases in the overall price level and an appreciation of the real exchange rate should be expected. But the deterioration could be also driven by other factors, such as excessive nominal wage growth. Thus, external deficits may reflect a lack of competitiveness and overheating problems due to overly optimistic expectations or asset price

booms. Low solvency ratings might force governments to seek real exchange rate depreciations through deflation policies, with probably adverse effects on the catching up process.

This paper explores to which extent the euro area imbalances can be traced back to catching up and competitiveness factors. As the relevant variables are subject to stochastic trends, panel integration and cointegration techniques are employed, where cross section dependencies are taken into account. The results underpin the relevance of the European integration process if the estimation period is sufficiently long. Low-income countries tend to run current account deficits. However, the effect turns out to be insignificant, if the early years are dropped from the sample. The competitiveness channel is more robust and shows the expected sign, i.e. a real exchange rate appreciation leads to external deficits. While this effect is highly visible for the deficit countries, it is not significant for the surplus countries.

The results have implications with respect to macroeconomic policy coordination and surveillance in the euro area. Better coordination should overcome the debt crisis and foster stability. Deficit countries need to restore competitiveness through a depreciation of their real exchange rate, specifically a decrease of unit labour costs. For the surplus countries, an appreciation of the real exchange rate through an increase of unit labour costs is not a feasible strategy.

The rest of the paper is structured as follows. Section 2 provides a review of the driving factors of the current account identified by previous studies. Section 3 presents the econometric methods used in the analysis, and section 4 holds the data and empirical evidence. Finally, section 5 concludes.

2 Determinants of current account positions

According to national accounts identities, the current account balance is equal to the difference between domestic investment and savings, aggregated across private and public sectors. A current account deficit implies an excess of investment over savings. It can be caused by a variety of factors, such as an investment boom due to better growth perspectives or a lack of savings due to excessive public consumption. The deficit is financed by a surplus in saving of foreign countries, i.e. international capital inflows. Prolonged deficits lead to an accumulation of foreign debt.

The determinants of the current account position are selected from the variables that have an impact on investment and saving decisions. Typical regressions include income per capita and income perspectives, the fiscal balance, population growth, old-age dependency ratios, the stock of net foreign assets, the real interest rate and variables describing the institutional framework (Lee, Milesi-Feretti, Ostry, Prati and Ricci, 2008). Competitiveness effects are captured by the real exchange rate. It affects the foreign trade balance via its influence on exports and imports as well as the returns of domestic and foreign assets.

Population growth and old-age dependency ratios are expected tol lower the current account due to their adverse impact on saving. A more restrictive course of fiscal policy tends to raise national savings and, therefore, the current account balance, if it is not fully offset by a decrease in private saving or a rise in private investment (Abbas, Bouhga-Hagbe, Fatás, Mauro and Velloso, 2010). Higher net foreign assets will raise the current account balance, as they increase net investment income balances.

Better growth opportunities, i.e. a lower relative per capita income, and a real exchange rate appreciation should lower the current account. Moreover, higher social spending and intensified employment protection might reduce the savings rate, i.e. worsen the current account. Product and financial market deregulation can increase competitiveness and provide incentives for higher investment, leading to a current account deficit. However, deregulation has primarily occurred in the 1990s and can hardly explain the widening of imbalances observed in recent years. In addition, the variables show only little variation and are approximately captured by country fixed effects.

Mody and Ohnesorge (2010) suggest that greater business cycle volatility is associated with higher precautionary household savings, which, by extension, should lead to higher trade balance surpluses or lower trade balance deficits. This hypothesis is typically explored using standard deviation of annual real GDP growth rates, a variable which is expected to be stationary.

The empirical evidence is broadly in line with the theoretical predictions, more or less. However, most studies have explored the determinants of current account imbalances in a global setting, see for example Chinn and Prasad (2003), Gruber and Kamin (2007), Bracke, Bussière, Fidora and Straub (2008) and Lee, Milesi-Feretti, Ostry, Prati and Ricci (2008). A smaller number of papers has analysed the development in the euro area. As Blanchard and Giavazzi (2002) have pointed out the formation of the monetary union have contributed to a decline in the correlation between national saving and investment, i.e. the Feldstein and Horoika (1980) puzzle almost disappeared. In highly integrated markets, national investment and saving appear to be increasingly uncorrelated. According to Schmitz and von Hagen (2009), current account positions are largely driven by differences in per capita income, and the common currency raised the im-

balances further due to faster financial market integration. See also Lane (2010). The relevance of product and labour market institutions for external balances has been advocated by Belke, Schnabl and Zemanek (2010), Berger and Nitsch (2010) and Kerdrain, Koske and Wanner (2010). Decressin and Stavrev (2009) have emphasized that the intra-euro area disparities have not increased when compared to advanced economies with flexible exchange rate regimes. However, Berger and Nitsch (2010) find that intra-euro area imbalances have become larger and also more persistent with the introduction of the euro. According to Barnes, Lawson and Radziwill (2010) socioeconomic factors cannot fully account for the development in the last decade. Instead, housing investment rates capture important aspects of the imbalances. Following Camarero, Carrion-i-Silvestre and Tamarit (2010), the net foreign asset to GDP ratio is stationary for almost all member states, provided that structural breaks are properly acknowledged. Hence, external solvency seems to be achieved, but abrupt adjustments either led by market forces or promoted by proactive policy measures might be needed to offset external disequilibria. Based on an exhaustive descriptive analysis of AMECO data, Holinski, Kool and Muysken (2010) have argued that the imbalances are actually caused by the behaviour of the private sector. The lack of private savings in the deficit countries is the most striking component. In contrast, fiscal policies are less important. In addition, the increase in current account deficits coincides with diminishing budget deficits in the period just before the financial crisis. This pattern might be due to the fact that the Stability and Growth Pact has been really biting in the case of countries such as Spain and/or to business cycle effects.

The results underpin the relevance of different income levels and advances in economic integration in the determination of current account positions across countries. However,

the studies have often neglected the competitiveness channel as a driver of external imbalances. According to Arghyrou and Chortareas (2008), the real exchange rate affects the current account position in most euro area member states, although the relationship can be subject to nonlinearities, see also Berger and Nitsch (2010). Countries with real exchange rate depreciations tend to show an improvement in their current account, while countries with real appreciations have experienced a deterioration. Note that this effect may have even intensified in the monetary union, as the introduction of the common currency has increased competition.

Overall, it seems to be legitimized to focus on a "great ratio" of three essential variables, i.e. the current account balances, a catching up variable and a measure for competitiveness. Notably, some other potential determinants of the current account balance mentioned above have not been explicitly considered due to two lines of arguments. First, the above discussion pointed at some caveats with respect to their use within a cointegration framework. Second, these variables are implicitly absorbed by the catching up and/or the competitiveness variable, at least in part. For example, an expansionary fiscal policy might stimulate economic activity and raise prices, leading to an appreciation of the exchange rate. However, both effects are included in the model specification.

3 Paneleconometric methods

As the variables in the analysis are driven by stochastic trends, a cointegration analysis is the appropriate way to proceed. However, it has been widely acknowledged that standard unit root and cointegration tests can have low power against stationary alternatives,

see for example Campbell and Perron (1991). Panel tests make progress in this respect. Since the time series dimension is extended by the cross section, inference relies on a broader information set. Therefore, gains in power can be expected, see Levin, Lin and Chu (2002).

However, first generation panel unit root and cointegration tests are based on the assumption of independent panel members. Due to common shocks, this condition is often rejected in empirical work. In the presence of cross section dependencies, the tests suffer from huge size distortions. The situation gets even worse if the number of cross sections is increased, see Banerjee, Marcellino and Osbat (2004, 2005). To overcome these deficits, panel integration and cointegration tests have been developed that control for the dependencies via a common factor structure.

To explore the unit root properties of the variables involved, the CADF test proposed by Pesaran (2007) is employed. In this procedure, the standard ADF equation is extended with cross section averages of lagged levels and first differences of the series of interest. The regression is run for each panel member separately. Testing for the null of a unit root is based on the *t*-ratio of the first order autoregressive parameter. To construct a panel statistic, the *t*-values are pooled across individuals. A standardized version of the test is asymptotically distributed as standard normal under the joint null hypothesis of nonstationarity for all individuals. If the null is rejected, the series is stationary at least for one panel member.

To examine cointegration, the panel and group mean statistics suggested by Westerlund (2007) are applied. These tests do not rely on a common factor restriction such as the residual based tests for cointegration, see for example Pedroni (2004). The principle is to evaluate the null hypothesis of no cointegration by inferring whether the feedback

parameter in a conditional panel error-correction model is equal to zero. Error-correction models are estimated separately for the panel members and then the statistics are pooled. The tests differ in the alternative hypothesis. If the null is rejected, cointegration is assumed to hold for all units in case of the panel statistics, and at least for one individual in the group statistics. The tests are asymptotically distributed as standard normal and can account for individual short-run dynamics, trends and slope parameters. As the cross sections are not independent, however, critical values need to be obtained by bootstrap methods.

Note that the panel cointegration tests do not uncover the long run parameters. In the application below, the cointegration vector is assumed to be identical for all panel units, as fundamental economic principles are involved. In fact, there is little rationale for a wide dispersion of the parameters if the units are quite homogeneous. Therefore, after testing for cointegration, the pooled mean group estimator suggested by Pesaran, Shin and Smith (1999) is applied to reveal the common cointegration vector. To be on the safe side a robustness analysis will be conducted by distinguishing between surplus and deficit countries.

4 Data and empirical results

The data are taken from the AMECO database provided by the European Commission. Annual time series are available for 11 euro area member states (Austria, Belgium plus Luxembourg, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain) and cover the 1982-2008 period. Hence, the evolution of the current account imbalances is studied over a relatively long time span since the introduction of

the European Monetary System. As a measure of imbalances the current account ratio is considered, i.e. the current account to nominal GDP ratio (*ca*). While the external position of the euro area has remained close to balance over the past three decades, current account imbalances across member states have decreased in the 1990s. However, the imbalances have increased to record high levels since the introduction of the monetary union. Surpluses are especially large for Germany and the Netherlands, and deficits are particularly notable in Southern countries (Spain, Portugal and Greece). To illustrate this point, Figure 1 displays the development for these countries. Two main events are crucial in the overall evolution. The first one is the introduction of the common currency in 1999 that has fostered financial market integration and the ability to run huge and persistent imbalances. The second factor is the Eastern enlargement of the EU in 2004. For example, Germany has tighter relationships to Eastern Europe than other euro area members.

-Figure 1 about here-

The imbalances might be driven by catching up and competitiveness factors. The analysis of the catching up component refers to real GDP per capita (*cat*). To arrive at this measure, nominal GDP is deflated by the GDP deflator (2000=100) and divided by population. The effective real exchange rate is used as a proxy of competitiveness effects (*com*). It is based on unit labour costs of the respective country compared to the rest of the EU economies. In its construction, export weights are used. Note that the real exchange rate is obtained as an index (1982=100), i.e. it indicates the cumulative

changes starting from an arbitrary level. Both catching up and competitiveness factors are expressed in relative terms, i.e. divided by the euro area average.

-Table 1 about here-

To investigate the drivers of imbalances more formally, a cointegration analysis is conducted. First, the unit root property is explored, see the upper part of Table 1. All series appear to be $I(1)$, as they are nonstationary in their levels and stationary in the first differences. Second, the imbalances are cointegrated with their potential determinants, see the lower part of Table 1. Both determinants are required to ensure cointegration. Thus, an equilibrium can be established between the current account positions, catching up and competitiveness factors. The parameters of the long run relationship reported in Table 2 are well signed. As expected, the current account of a euro area member country improves if the per capita income increases relative to the euro area. If the relative real exchange rate appreciates, the current account will worsen. Since all regressors are expressed on the same scale, i.e. as a percentage of the euro area average, their long run multipliers can be compared. Competitiveness appears to be more important in driving the external imbalances than the catching up component.

Moreover, Table 2 provides some insights into the robustness of the results. As a preliminary step, the sample period is curtailed by removing early years. The significance of the catching up effect diminishes for the whole panel, while the role of competitiveness is confirmed. Therefore, the imbalances are increasingly related to changes in the real exchange rate. The decline of the relevance of relative per capita incomes is be-

cause of its insignificance for the deficit countries. For the surplus countries and the states with relatively low imbalances, the income effect is still more important than the effective real exchange rate. In contrast, competitiveness is of primary relevance for the deficit states. A rationale for this finding is that countries with huge surpluses like Germany have particularly benefitted from the integration of markets into the world economy. In addition, the export portfolio is focused on investment products, which are less sensitive to price changes.

-Table 2 about here-

5 Conclusion

In the debate on global imbalances, the euro area countries did not receive much attention so far. While the current account is on balance for the entire area, divergences between individual member states have increased since the introduction of the common currency. In this paper, the imbalances are traced to catching up and competitiveness factors using paneleconometric techniques. In line with the inter-temporal approach to the current account, low income countries tend to run deficits, while rich countries realize surpluses. However, the effect diminishes, if early years are dropped from the sample. The competitiveness channel is more robust and shows the expected sign, i.e. a real appreciation leads to external deficits. To restore competitiveness, a reduction of unit labour costs is on the agenda. Since a deterioration of competitiveness is not a feasible strategy for the surplus countries, an asymmetric response across countries is required in

order to reduce the imbalances. Fiscal consolidation remains on the agenda for all member states.

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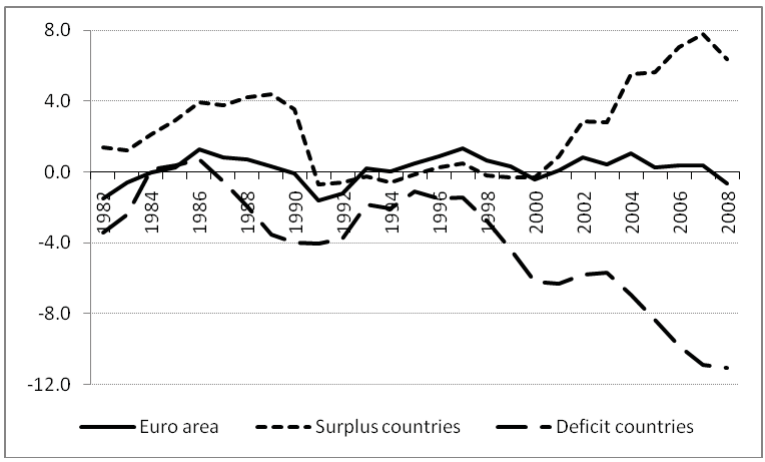
Figure 1: Current account imbalances in the euro area



Note: AMECO. Current account to GDP ratio. Surplus sample: Germany, Netherlands. Deficit sample: Greece, Portugal, Spain.

Table 1 - *Integration and cointegration properties of the variables involved*

Tests for integration

	Levels	First differences
ca	2.099 (0.982)	-4.174 (0.000)
cat	0.852 (0.803)	-2.531 (0.006)
com	0.348 (0.636)	-3.929 (0.000)

Note: 11 euro area countries (Austria, Belgium and Luxemburg, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, 1982-2008.

Tests for cointegration

	G_τ	G_α	P_τ	P_α
ca, cat	-1.680 (0.061)	-0.035 (0.193)	-2.590 (0.023)	-2.892 (0.019)
ca, com	-0.994 (0.220)	0.125 (0.310)	-2.231 (0.109)	-2.471 (0.104)
ca, cat, com	-2.300 (0.035)	-0.083 (0.148)	-2.466 (0.030)	-2.073 (0.053)

Note: 11 euro area countries (Austria, Belgium and Luxemburg, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, 1982-2008. Current account to GDP ratio (*ca*), real per capita income (*cat*), real effective exchange rate (*com*). Catching up and competitiveness expressed relative to the euro area average. Integration tests according to Pesaran (2007), panel cointegration tests according to Westerlund (2007). Lag lengths selected by Akaike information criterion. Entries denote test statistics, *p*-values in parentheses. The *p*-values for the cointegration tests are based on bootstrap methods, where 800 replications are used. See Persyn and Westerlund (2008) for the details.

Table 2 - *Estimation of the cointegrating vector*

Euro area

	1982-2008	1991-2008
cat	0.073 (0.015)	0.018 (0.024)
com	-0.165 (0.014)	-0.153 (0.020)
*R*2	0.704	0.766

Surplus countries

	1982-2008	1991-2008
cat	0.255 (0.035)	0.263 (0.058)
com	-0.101 (0.027)	-0.057 (0.040)
*R*2	0.527	0.466

Deficit countries

	1982-2008	1991-2008
cat	0.039 (0.015)	-0.011 (0.019)
com	-0.230 (0.017)	-0.244 (0.019)
*R*2	0.746	0.872

Countries with low imbalances

	1982-2008	1991-2008
cat	0.431 (0.042)	0.402 (0.085)
com	-0.063 (0.017)	-0.070 (0.019)
*R*2	0.741	0.752

Note: Real per capita income (*cat*) and real effective exchange rate (*com*) relative to euro area average. Surplus countries: Germany, Netherlands, Austria, Finland. Deficit countries: Greece, Ireland, Spain, Portugal. Countries with low imbalances: Belgium, France, Italy. *R*2 adjusted *R*-squared. Pooled mean group estimator of the cointegrating vector, according to Pesaran, Shin and Smith (1999). Standard errors in parentheses.